Sept. 2, 1930. W. J. OFFICER 1,774,722

SWITCH FOR ELECTRICAL FLASH LIGHTS

Filed Jan. 31, 1928

Fig. 1.

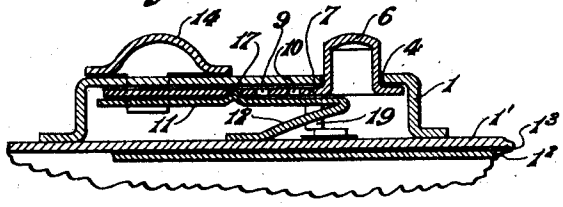


Fig. 2.

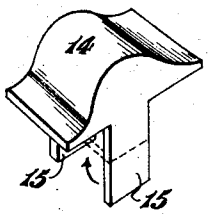


Fig. 3.

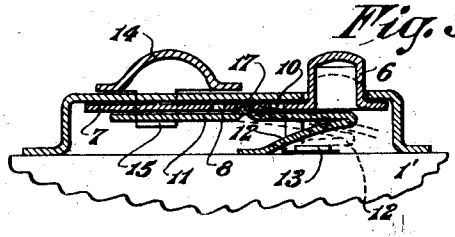


Fig. 4.

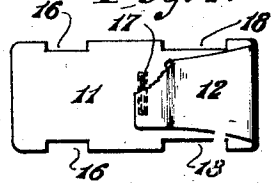


Fig. 5.

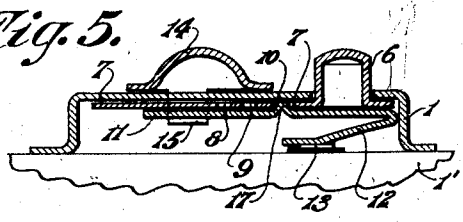


Fig. 6.

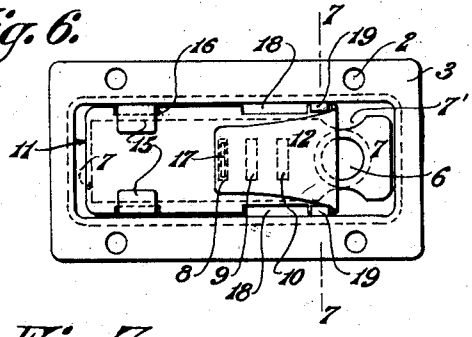


Fig. 7.

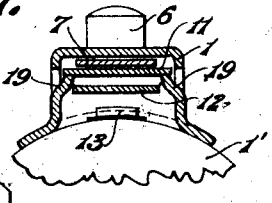


Fig. 8.

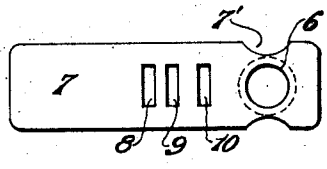
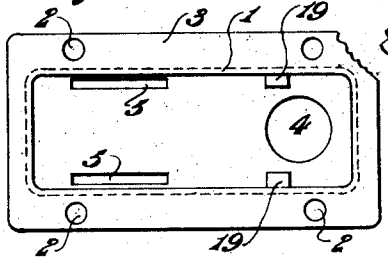


Fig. 9.



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UNITED STATES PATENT OFFICE

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SWITCH FOR ELECTRICAL FLASH LIGHTS

Application filed January 31, 1928. Serial No. 250,804.

This invention relates to improvements in switches for electrical flash lights that are located on the outer surface of the battery enclosing casing. An object of the invention is to provide a switch that permits the circuit to the bulb to be momentarily closed, or to be locked so that it can not be accidently closed, or to be permanently closed.

Broadly it comprises a casing member which is attached to the casing and having a slidable thumb and finger piece that is located on its upper surface. This piece operates a slidable contact closing member that is located within the casing. Also located within an opening of the casing is a push button for momentarily closing the circuit to the bulb. The slidable member also performs the function of permanently retaining the circuit open to prevent it accidently closing when the flash light is not in use. Means are also provided for permanently closing the circuit.

Referring to the drawings:

Fig. 1 is a longitudinal sectional view taken through the push button showing the slidable contact member and the means for retaining this slidable member in different positions of adjustment.

Fig. 2 is a detail perspective view of the thumb and finger part for operating the slidable contact member.

Fig. 3 is a view similar to Fig. 1, showing in dotted lines the circuit as being momentarily closed.

Fig. 4 is a detail bottom plan view of the slidable contact member.

Fig. 5 shows the switch in its permanently closed position.

Fig. 6 is a bottom plan view showing the interior with the parts assembled.

Fig. 7 is a transverse sectional view on the line 7—7 of Fig. 6 illustrating the construction for holding the circuit closed.

Fig. 8 is a detail plan view of the member carrying the push bottom and the slotted portion for retaining the slidable contact member in place, and

Fig. 9 is a bottom plan view of the casing showing the opening through which the push button passes the inwardly extending ears for locking the slidable contact member and the openings to receive the depending portions of the thumb piece.

Referring to the drawings in detail:

1 designates the struck-up casing member which is secured to the battery enclosing tube by means of rivets which enter the openings 2 of the flange portion 3. This casing is formed with an opening 4 and the two elongated slots 5, as shown in Fig. 9. Located in the opening 4 is a push button 6 that is formed as a part of the member 7 which is formed with the three slots 8, 9 and 10, as shown in Fig. 8. 11 is a slidable contact member that is located below the slotted plate 7 having the downwardly extending contact closing tongue part 12 which engages the contact 13 of the electric circuit. The slidable contact member 11 is operated by means of the thumb piece 14 that is formed with the downwardly extending fingers 15 that pass through the slots 5 in the casing and enter the recesses 16 of the slidable contact member 11. They are folded inwardly, as shown in Fig. 6, where they engage the lower surface of the slidable contact member 11. The member 11 is formed with a struck up portion 17 which is designated to enter the slots 8, 9 and 10 of the fixed plate 7 for the purpose of holding the slidable contact member 11 in different positions of adjustment. The contact member 11 is also formed with recesses 18. The casing 1 is formed with inwardly extending projections 19 on the opposite edges, as shown in Figs. 6, 7 and 9. The purpose of these projections is to prevent the downward movement of the contact member 11 when the thumb 6 is pressed downward, as shown in Figs. 1 and 6 to prevent accidental closing of the circuit. These pieces normally enter the cut out recesses 18 of the member 11.

The operation of the switch may be described as follows: Referring first to Fig. 1, the struck up part 17 of the slidable contact member 11 is located in the opening 8 of the fixed plate 7. This part retains the slidable contact piece 11 against accidental closing of the circuit. In this position the contact is

held open. The struck up ears 19 are now under the member 11, see Figs. 6 and 7.

Referring to Fig. 3 the thumb piece 14 has been operated with the struck up part 17 in the opening 9. When the push button 6 is moved downward it moves the tongue part 12 into engagement with the contact 13 for momentarily closing the circuit. The projections 19 are now in the recesses 18. The recesses 7' of the plate 7 are to permit the projections 19 to be free when the button 6 is operated.

Referring to Fig. 5 the slidable contact member 11 assumes the position in which the projection 17 enters the opening 10. The portion 12 is now permanently closed on the contact 13. The circuit strip is shown at 1^2 and the insulation at 1^3.

From this description it will be seen that I have provided a switch device that performs the three functions of: first, to permit temporarily closing the circuit; second, holding it open to prevent accidental closing, and third, to permanently close the circuit.

What I claim is:

1. A switch device comprising a casing member having a push button opening, a thumb piece movable on the casing, a push button member in the opening and having an extension part with spaced slots, a slidable contact member connected to the thumb piece and formed with a struck up portion for entering the slots in the extension of the said push button member in succession, as the contact member is moved by the thumb piece, whereby the slidable contact member is retained in different positions of adjustment, and ears on the casing for preventing the operation of the push button, when in one position.

2. In a switch device for flashlights, a slidable contact member formed with struck-up portions, a push button member, means for moving the contact member, means for retaining the contact member in different positions of adjustment relative to a contact terminal and comprising a slotted part connected to the push button to receive the struck-up portions, a part on the movable contact member for entering the slots of the push button member, whereby, when the push button is operated, the contact member will momentarily engage the contact terminal, or will permanently close the circuit and oppositely extending ear means on the casing for rendering the push button inoperative.

3. A flash light switch having in combination a casing member, slidable contact means for making and breaking the circuit to momentarily close the circuit to the bulb, means, comprising oppositely and inwardly extending struck-up ears on the casing, which are located under the slideable contact means for rendering the circuit closing means inoperative, and means for permanently closing the circuit.

4. A flash light switch having, in combination, a casing with struck-up ear parts, a contact terminal, a slidable switch member formed with a projection and bent terminal contact part, a push button having a slotted part to receive the projection of the slidable switch for retaining the slidable switch member in different positions of adjustment relative to the contact terminal, the said ear parts being so located to prevent the operation of the push button, whereby the circuit is maintained open.

5. In a switch device, a push button member, having an integral extension portion that is formed with a plurality of spaced slots, a slidable contact member, having a projection that enters the slots for retaining the contact member in different positions of adjustment, the push button member being located over one end of the contact member for moving it downward into engagement with a contact terminal, a casing for enclosing the parts, and, means on the casing, which prevent the downward movement of the push button, when the slidable contact member is in one position.

6. In a switch device for flash lights, a casing having a push button receiving opening, a push button in the opening, a slidable contact member, a thumb piece for operating the contact member, an inwardly projecting part on the casing which extends over the slidable contact member, when it is moved into its rearward position by the thumb piece for preventing the push button from closing the circuit, when operated.

7. In combination, in a switch, a casing, a push button located in an opening thereof, a slidable contact switch member, cooperating means between the push button and the said slidable switch comprising cutout recesses in the slidable switch and struck-up ears on the casing for entering the recesses to permit the push button to operate or to prevent the push button from operating, when not in the recesses and means for retaining the switch in different positions of adjustment for permitting the circuit to be momentarily closed, or locked against closure, or permanently closed, and means for operating the slidable switch.

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